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Indian Standard
METHOD OF SAMPLING
AND PREPARATION OF ASBESTOS FIBRE
FOR LABORATORY TEST PURPOSES

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METHOD OF SAMPLING AND PREPARATION OF ASBESTOS FIBRE FOR LABORATORY TEST PURPOSES

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Indian Standard

**METHOD OF SAMPLING
AND PREPARATION OF ASBESTOS FIBRE
FOR LABORATORY TEST PURPOSES**

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 16 October 1968, after the draft finalized by the Cement and Concrete Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Sampling and preparation of samples are very important for testing. The procedure for sample preparation adopted here is not similar to other textile fibres, because of different characteristics of asbestos from other textile fibres and all types of asbestos do not have good spinning qualities. Hand mixing is preferred here for gentle rubbing and breaking up of lumps and clods in the samples. Reasonable accuracy in testing will depend on properly mixing of the different samples and also by conditioning the fibre.

0.3 In the formulation of this standard due weightage has been given to international co-ordination among standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

0.4 In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

1. SCOPE

1.1 This standard covers the method of sampling asbestos fibre and the preparation of the sample from lots for laboratory test purposes. A lot shall be from *one* source.

2. SAMPLING

2.1 The sample shall be selected so as to indicate the true character and condition of the asbestos fibre which it represents.

*Rules for rounding off numerical values (*revised*).

2.2 Procedure

2.2.1 Prepare a 2-kg composite sample from each lot consisting of 200 bags or part thereof by selecting 20 handfuls (approximately 100 g) each from different one-twentieth of the lot.

2.2.2 The sample shall be kept in closed containers placed in covered storage for subsequent testing.

3. PREPARATION OF THE SAMPLE

3.1 Each sample shall first be allowed to be kept under normal work room temperature.

3.2 The sample shall be spread over dry, smooth and clean area.

3.3 The sample shall be conditioned by passing the fibres through the hands with gentle rubbing in order to break up and to separate all lumps and clods of fibre.

3.4 The well mixed sample shall be spread out on a smooth and clean area.

3.5 In case it is necessary the samples shall be reduced to the size of 2 kg by quartering. This 2-kg sample shall be used as the source of fibre for each individual test.

3.6 For extraction of samples for test purpose, 2-kg sample shall be spread on a clean surface, quartered and from each quarter desirable size of sample shall be taken.

3.7 Each individual test result shall be reported separately.

3.8 The supplier shall supply free of charge the asbestos required for testing.

4. CONDITION FOR TESTING

4.1 The tests shall be carried out in rooms or cabinets provided with a normal climate which involves a temperature of $27 \pm 2^{\circ}\text{C}$ and relative humidity of 65 ± 5 percent (see IS : 196-1966*).

4.2 Adjustment of Relative Atmospheric Humidity in Climate Cabinets — Adjustment of a relative atmospheric humidity of 65 percent in a climate cabinet is best effected by providing a dish containing 35.9 percent sulphuric acid solution (sp gr 1.262 at 27°C) of maximum surface area. Circulation of air by means of a slowly rotating ventilator improves the uniformity of the atmosphere by proper distribution of conditioned air throughout the entire cabinet. Attention shall be paid to a sufficiently high degree of temperature regulators constancy (± 1 deg) within the cabinet, if necessary, by introduction of temperature regulator in order to avoid fluctuation of the relative degree of atmospheric humidity.

4.3 The test specimen shall be then left in the normal atmosphere for 24 hours in such a way to expose, as far as possible, all portions of the specimen.

*Atmospheric conditions for testing.

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INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Conversion
Force	newton	N	1 N = 1 kg.1 m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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